EPISTAR

ES-EEBCA14A

InGaN A-series Blue LED Chip

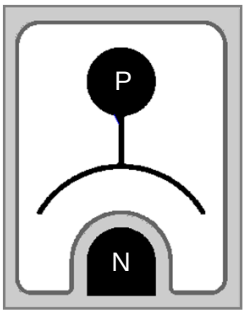
> Mechanical Specification:

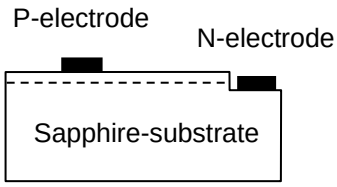
(1) Dimension
- Chip size: 355 ± 40 μm x 280 ± 40 μm
- Thickness: 4.3 mil (110 ± 10 μm)
- P bonding pad: 3.1 mil (80 ± 10 μm)
- N bonding pad: 3.1 mil (80 ± 10 μm)

(2) Metallization
- Topside P electrode: Au alloy
- Topside N electrode: Au alloy

Features:
- High luminous intensity
- Long operation life
- 100% probing test
- Passivation layer on top

Applications:
- RGB display





Electro-optical Characteristics at 25°C: (1)

Parameter	Symbol		Condition	Min.	Typ.	Max.	Unit
Forward Voltage	Vf1		If = 10μA	2.0	-	-	V
	Vf2		If = 20mA	-	2.9	3.2	V
Reverse Current	Ir		Vr = 5V	-	-	2.0	μA
Dominant Wavelength(2)	λd		If = 20mA	460	-	475	nm
Spectra Half-width	Δλ		If = 20mA	-	25	-	nm
Luminous intensity (3)	Iv	I29	If = 20mA λd=460-465nm	500	-	550	mcd
		I30		550	-	600	
		I31		600	-	650	
		I30	If = 20mA λd=465-475nm	550	-	600	
		I31		600	-	650	
		I32		650	-	700	
		I33		700	-	750	
		I34		750	-	800	
		I35		800	-	850	
		I36		850		900	

Note:
(1) ESD protection during chip handling is recommended.
(2) Basically, the wavelength span is 15nm; however, customers' special requirements are also welcome.
(3) Luminous intensity is measured by EPISTAR's equipment on bare chips.

> Absolute Maximum Ratings:

Parameter	Symbol	Condition	Rating	Unit
Forward DC Current	If	Ta = 25˚C	≤ 35	mA
Reverse Voltage	Vr	Ta = 25˚C	≤ 5	V
Junction Temperature	Tj	-	≤ 115	˚C
Storage Temperature	Tstg	Chip	-40 ~ +85	˚C
		Chip-on-tape/storage	5 ~ 35	˚C
		Chip-on-tape/transportation	-20 ~ +65	˚C
Temperature during Packaging	-	-	280(<10sec)	˚C

Note: Maximum ratings are package dependent. The above maximum ratings were determined using a Printed Circuit Board (PCB) without an encapsulant. Stresses in excess of the absolute maximum ratings such as forward current and junction temperature may cause damage to the LED.

> Characteristic Curves:

Fig.1 – Relative luminous Intensity vs. Forward Current

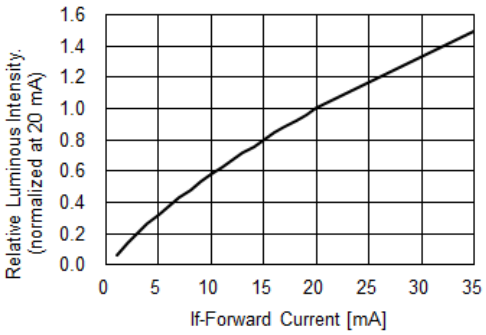


Fig.2 – Forward Current vs. Forward Voltage

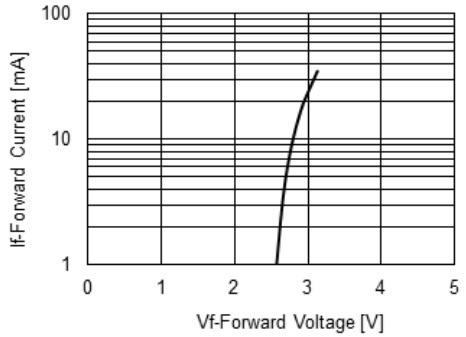


Fig.3 – Relative Intensity (@20mA) vs. Ambient Temperature

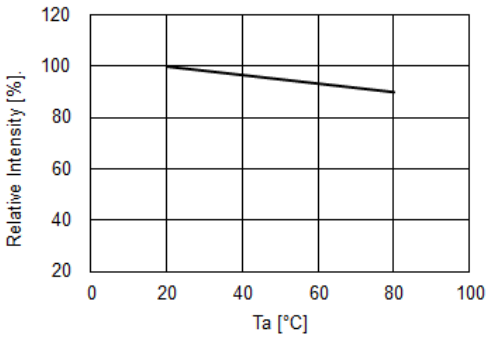


Fig.4 – Forward Voltage (@20mA) vs. Ambient Temperature

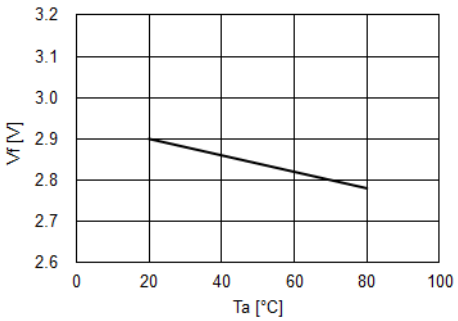


Fig.5 – Dominant Wavelength (@20mA) vs. Ambient Temperature

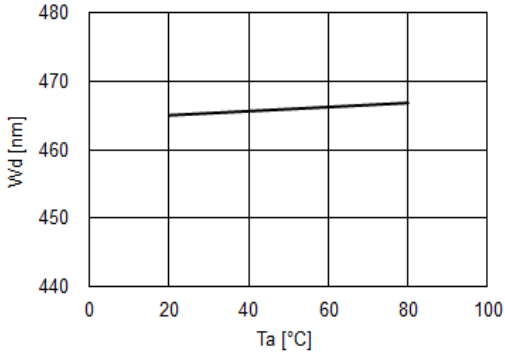


Fig.6 – Maximum Driving Forward DC Current vs. Ambient Temperature (De-rating based on Tj max. = 115°C)